I CLAIM:

1. A process for electrochemically removing overburden conductive material formed over cavities having cavity conductive material therein on a surface of a workpiece comprising the steps:

contacting the overburden conductive material with a porous conductive member insulatively coupled to an electrode;

applying a voltage between the porous conductive member and the electrode; and

establishing relative motion between the porous conductive member insulatively coupled to the electrode and the workpiece to electrochemically remove the overburden conductive material on the surface of the workpiece.

2. The process of claim 1, wherein the step of contacting includes contacting less than 10% of an area of the workpiece surface.

3. The process of claim 1 further comprising maintaining a gap between the electrode and the porous conductive member.

4. The process of claim 3 further comprising bridging the gap with a process solution.

5. The process of claim 3, wherein the gap is in the range of 0.1 to 5 millimeters.

6. The process of claim 1, wherein the step of contacting the overburden conductive material includes laying an area of the porous conductive member on the overburden conductive material.

7. The process of claim 1, wherein the step of establishing relative motion includes sweeping the porous conductive member across the overburden conductive material.

8. The process of claim 1, wherein the step of establishing relative motion includes sweeping the porous conductive member across substantially an entire surface of the workpiece.

9. The process of claim 1, wherein the step of establishing relative motion includes moving the surface of the overburden conductive material to sweep the porous conductive member across the overburden conductive material.

10. The process of claim 1 further comprising self-limiting the electrochemical removal of the overburden conductive material after exposing the cavity conductive material.

11. The process of claim 10, wherein the step of self-limiting includes contacting the porous conductive member with an underlying barrier layer.

12. The process of claim 11, wherein the step of self-limiting includes sensing a reduced current drop between the porous conductive member and the electrode.

13. An apparatus for electropolishing a conductive layer on a surface of a workpiece comprising:

a porous conductive member configured to contact the conductive layer and having a first connector for receiving electrical power;

an electrode insulatively coupled to the porous conductive member having a second connector configured to receive electrical power;

a holder insulatively coupled to the porous conductive member and the electrode configured to establish relative motion between the porous conductive member and the conductive layer; and

a power supply coupled to the first connector and the second connector configured to supply the electrical power between the electrode and the porous conductive member for electropolishing the conductive layer.

14. The apparatus of claim 13, wherein the porous conductive member is a brush made of flexible wires.

15. The apparatus of claim 14, wherein the flexible wires are made of inert materials.

16. The apparatus of claim 13, wherein the holder is configured to move laterally and vertically with respect to the workpiece.

17. The apparatus of claim 13, wherein the porous conductive member contacts an area of the workpiece that is less than 10% of an area of the workpiece.

18. The apparatus of claim 13, wherein the electrode is proximate to the porous conductive member.

19. The apparatus of claim 18, wherein the electrode is 0.1 to 5 millimeters to the porous conductive member.

20. The apparatus of claim 18 further comprising a process solution configured to provide a conductive medium between the electrode and the porous conductive member.

21. The apparatus of claim 20, wherein the process solution provides the conductive medium between the conductive layer and the electrode.

22. The apparatus of claim 21, wherein the electrical power applied between the electrode and the porous conductive member is reduced when the conductive layer is substantially removed.